



UNIX Commands Interview Questions

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1. Construct pipes to execute the following jobs.

1. Output of who should be displayed on the screen with value of total number of users who have logged in displayed at the bottom of the list.
2. Output of ls should be displayed on the screen and from this output the lines containing the word 'poem' should be counted and the count should be stored in a file.
3. Contents of file1 and file2 should be displayed on the screen and this output should be appended in a file .
From output of ls the lines containing 'poem' should be displayed on the screen along with the count.
4. Name of cities should be accepted from the keyboard . This list should be combined with the list present in a file. This combined list should be sorted and the sorted list should be stored in a file 'newcity'.
5. All files present in a directory dir1 should be deleted any error while deleting should be stored in a file 'errorlog'.

2. Explain the following commands.

```
$ ls > file1
$ banner hi-fi > message
$ cat par.3 par.4 par.5 >> report
$ cat file1>file1
$ date ; who
$ date ; who > logfile
$ (date ; who) > logfile
```

3. What is the significance of the “tee” command?

It reads the standard input and sends it to the standard output while redirecting a copy of what it has read to the file specified by the user.

4. What does the command “ \$who | sort –logfile > newfile” do?

The input from a pipe can be combined with the input from a file . The trick is to use the special symbol “-“ (a hyphen) for those commands that recognize the hyphen as std input. In the above command the output from who becomes the std input to sort , meanwhile sort opens the file logfile, the contents of this file is sorted together with the output of who (rep by the hyphen) and the sorted output is redirected to the file newfile.

5. What does the command “\$ls | wc –l > file1” do?

ls becomes the input to wc which counts the number of lines it receives as input and instead of displaying this count , the value is stored in file1.

6. Which of the following commands is not a filter man , (b) cat , (c) pg , (d) head

Ans: man

A filter is a program which can receive a flow of data from std input, process (or filter) it and send the result to the std output.

7. How is the command “\$cat file2 “ different from “\$cat >file2 and >> redirection operators ?

is the output redirection operator when used it overwrites while >> operator appends into the file.

9. Explain the steps that a shell follows while processing a command.

After the command line is terminated by the key, the shell goes ahead with processing the command line in one or more passes. The sequence is well defined and assumes the following order.

Parsing: The shell first breaks up the command line into words, using spaces and the delimiters, unless quoted. All consecutive occurrences of a space or tab are replaced here with a single space.

Variable evaluation: All words preceded by a \$ are evaluated as variables, unless quoted or escaped.

Command substitution: Any command surrounded by backquotes is executed by the shell which then replaces the standard output of the command into the command line.

Wild-card interpretation: The shell finally scans the command line for wild-cards (the characters *, ?, [,]). Any word containing a wild-card is replaced by a sorted list of filenames that match the pattern. The list of these filenames then forms the arguments to the command.
PATH evaluation: It finally looks for the PATH variable to determine the sequence of directories it has to search in order to hunt for the command.

10. What difference between cmp and diff commands?

cmp - Compares two files byte by byte and displays the first mismatch
diff - tells the changes to be made to make the files identical

11. What is the use of ‘grep’ command?

‘grep’ is a pattern search command. It searches for the pattern, specified in the command line with appropriate option, in a file(s).
Syntax : grep
Example : grep 99mx mcafile

12. What is the difference between cat and more command?

Cat displays file contents. If the file is large the contents scroll off the screen before we view it. So command ‘more’ is like a pager which displays the contents page by page.

13. Write a command to kill the last background job?

Kill \$!

14. Which command is used to delete all files in the current directory and all its sub-directories?

rm -r *

15. Write a command to display a file's contents in various formats?

`$od -cbd file_name`
c - character, b - binary (octal), d-decimal, od=Octal Dump.

16. What will the following command do?

`$ echo *`
It is similar to 'ls' command and displays all the files in the current directory.

17. Is it possible to create new a file system in UNIX?

Yes, 'mkfs' is used to create a new file system.

18. Is it possible to restrict incoming message?

Yes, using the 'mesg' command.

19. What is the use of the command "ls -x chapter[1-5]"

ls stands for list; so it displays the list of the files that starts with 'chapter' with suffix '1' to '5', chapter1, chapter2, and so on.

20. Is 'du' a command? If so, what is its use?

Yes, it stands for 'disk usage'. With the help of this command you can find the disk capacity and free space of the disk.

21. Is it possible to count number char, line in a file; if so, How?

Yes, wc-stands for word count.
wc -c for counting number of characters in a file.
wc -l for counting lines in a file.

22. Name the data structure used to maintain file identification?

'inode', each file has a separate inode and a unique inode number.

23. How many prompts are available in a UNIX system?

Two prompts, PS1 (Primary Prompt), PS2 (Secondary Prompt).

24. How does the kernel differentiate device files and ordinary files?

Kernel checks 'type' field in the file's inode structure.

25. How to switch to a super user status to gain privileges?

Use 'su' command. The system asks for password and when valid entry is made the user gains super user (admin) privileges.

26. What are shell variables?

Shell variables are special variables, a name-value pair created and maintained by the shell.
Example: PATH, HOME, MAIL and TERM

27. What is redirection?

Directing the flow of data to the file or from the file for input or output.
Example : ls > wc

28. How to terminate a process which is running and the specialty on command kill 0?

With the help of kill command we can terminate the process.
Syntax: kill pid
Kill 0 - kills all processes in your system except the login shell.

29. What is a pipe and give an example?

A pipe is two or more commands separated by pipe char '|'. That tells the shell to arrange for the output of the preceding command to be passed as input to the following command.
Example : ls -l | pr
The output for a command ls is the standard input of pr.
When a sequence of commands are combined using pipe, then it is called pipeline.

30. Explain kill() and its possible return values.

There are four possible results from this call:
'kill()' returns 0. This implies that a process exists with the given PID, and the system would allow you to send signals to it. It is system-dependent whether the process could be a zombie.
'kill()' returns -1, 'errno == ESRCH' either no process exists with the given PID, or security enhancements are causing the system to deny its existence. (On some systems, the process could be a zombie.)
'kill()' returns -1, 'errno == EPERM' the system would not allow you to kill the specified process. This means that either the process exists (again, it could be a zombie) or draconian security enhancements are present (e.g. your process is not allowed to send signals to *anybody*.)
'kill()' returns -1, with some other value of 'errno' you are in trouble! The most-used technique is to assume that success or failure with 'EPERM' implies that the process exists, and any other error implies that it doesn't.
An alternative exists, if you are writing specifically for a system (or all those systems) that provide a '/proc' filesystem: checking for the existence of '/proc/PID' may work.

31. What is relative path and absolute path.

Absolute path : Exact path from root directory.
Relative path : Relative to the current path.

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